

REMARKS

The Office Action dated June 24, 2008, has been received and carefully considered. Reconsideration of the current rejections in the present application is also respectfully requested based on the following remarks.<sup>1</sup>

Initially, Applicants note that the Office Communication dated April 30, 2008 indicated that claims 3-5 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims, pursuant to the Decision by the Board of Patent Appeals and Interferences decided on February 6, 2008.

Accordingly, in Applicants' Response dated May 21, 2008, Applicants amended independent claim 1 to include the allowable subject matter of claim 3 and cancelled claim 3 in accordance with the suggestion provided by Examiner Luan V. Van.<sup>2</sup>

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<sup>1</sup> As Applicants' remarks with respect to the Examiner's rejections are sufficient to overcome these rejections, Applicants' silence as to assertions made by the Examiner in the Office Action or certain requirements that may be applicable to such rejections (e.g., assertions regarding dependent claims, whether a reference constitutes prior art, whether references are legally combinable for obviousness purposes) is not a concession by Applicants that such assertions are accurate or such requirements have been met, and Applicants reserve the right to analyze and dispute such in the future.

<sup>2</sup> In a telephone conference on May 9, 2008, Examiner Luan V. Van confirmed that rewriting claims 3-5 in independent form would put the claims in condition for allowance. Examiner Van also suggested two possibilities for rewriting the allowable claims: (1) that each of claims 3, 4, and 5 be rewritten in independent form, (2) that claim 3 be rewritten in independent form and claims 4-5 rewritten to depend from claim 3, or (2) that claim 1 be rewritten to include the allowable subject matter of claims 3. Applicants amended claim 1 based on suggestion (2).

However, rather than allowing the application, the Office has continued to reject claims 1, 2, 4-6, 19, and 20 using the same Tanaka reference under 35 U.S.C. § 103(a).

I. THE OBVIOUSNESS REJECTION OF CLAIMS 1, 2, 4-6, 19, and 20

On pages 2-4 of the Office Action, claims 1, 2, 4-6, 19, and 20 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Tanaka et al. (U.S. Patent No. 4,959,507, hereinafter "Tanaka"). This rejection is hereby respectfully traversed.

Under 35 U.S.C. § 103, the Patent Office bears the burden of establishing a prima facie case of obviousness. In re Fine, 837 F.2d 1071, 1074 (Fed. Cir. 1988). There are four separate factual inquiries to consider in making an obviousness determination: (1) the scope and content of the prior art; (2) the level of ordinary skill in the field of the invention; (3) the differences between the claimed invention and the prior art; and (4) the existence of any objective evidence, or "secondary considerations," of non-obviousness. Graham v. John Deere Co., 383 U.S. 1, 17-18 (1966); see also KSR Int'l Co. v. Teleflex Inc., 127 S. Ct. 1727 (2007). An "expansive and flexible approach" should be applied when determining obviousness based on a combination of prior art references. KSR, 127 S. Ct. at

1739. However, a claimed invention combining multiple known elements is not rendered obvious simply because each element was known independently in the prior art. Id. at 1741. Rather, there must still be some "reason that would have prompted" a person of ordinary skill in the art to combine the elements in the specific way that he or she did. Id.; In re Icon Health & Fitness, Inc., 496 F.3d 1374, 1380 (Fed. Cir. 2007). Also, modification of a prior art reference may be obvious only if there exists a reason that would have prompted a person of ordinary skill to make the change. KSR, 127 S. Ct. at 1740-41.

Specifically, claim 1 expressly recites that "the surface roughness of the at least one surface is reduced to no more than 20 microinches root-mean-squared (RMS)." Regarding claim 1, the Office asserts that Tanaka teaches all the limitations of the claimed invention, except that Tanaka "differs from the instant claim in that the reference does not explicitly teach the narrower range of roughness of the instant claim." The Office alleges that "the range of roughness of Tanaka et al. (a surface roughness of no more than 254 microinches encompasses the range of roughness of the instant claim (a surface roughness of no more than 20 microinches)" and asserts that "this encompassing...is prima face obviousness over the range of the

instant claim." The Office then cites MPEP 2144.05 as support for its allegation. However, Applicants respectfully disagree.

Tanaka's range of roughness does not "encompass" the range of the instant claims, as alleged by the Examiner. In fact, MPEP 2144.05 clearly states that "a prior art reference that discloses a range encompassing a somewhat narrower claimed range is sufficient to establish a prima facie case of obviousness." Here, the asserted "prior art reference" is Tanaka and its range is not "narrower" than that of the instant claim. Rather, Tanaka's range of roughness of "no more than 254 microinches" is larger than that of the instant claim, which recites "no more than 20 microinches." In other words, the only way the range in Tanaka may be understood as "encompassing" the range of the instant claim is if the Tanaka's range is narrower (e.g., "no more than 20 or less microinches"). As described above, this is clearly not the case. Accordingly, the Office has misapplied reference and has therefore failed to establish a proper prima facie case of obviousness.

On pages 4-6 of the Office Action, claims 1, 2, 4-6, 19, and 20 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Tanaka in view of Nagai et al. (U.S. Publication No. 2002/0155021, hereinafter "Nagai"). This rejection is hereby respectfully traversed.

Similar to the above rejection using only Tanaka, the Office asserts that Tanaka teaches all the limitations of the claimed invention, except that Tanaka "differs from the instant claim in that the reference does not explicitly teach the narrower range of roughness of the instant claim." In this rejection, however, the Office relies on Nagai to allegedly teach that "the surface roughness of the at least one surface is reduced to no more than 20 microinches root-mean-squared (RMS)," as expressly recited in claim 1. Specifically, the Office alleges that Nagai teaches a surface roughness of "2 micrometers or less of surface roughness [or equivalent to about 97 microinches]" and asserts that "it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used a similar surface roughness in the copper sheet of Tanaka et al., because a small surface roughness would improve the high-frequency performance of the device by reducing impedance, as taught by Nagai et al. (paragraph 28)." However, Applicants respectfully disagree.

Specifically, Nagai fails to cure the deficiencies of Tanaka because Nagai also fails to teach that "the surface roughness of the at least one surface is reduced to no more than 20 microinches root-mean-squared (RMS)." Similar to Tanaka's range of roughness, Nagai's range of roughness does not

"encompass" the range of the instant claims, as alleged by the Examiner. In fact, Nagai's range of roughness of "no more than 97 microinches" is larger than that of the instant claim, which recites "no more than 20 microinches." In other words, the only way the range in Nagai may be understood as "encompassing" the range of the instant claim is if the Nagai's range is narrower (e.g., "no more than 20 or less microinches"). This is clearly not the case. Accordingly, the Office has misapplied reference and Nagai does not cure the deficiencies of Tanaka because Nagai also does not teach that "the surface roughness of the at least one surface is reduced to no more than 20 microinches root-mean-squared (RMS)." As a result, the Office has failed to establish a proper prima facie case of obviousness.

Regarding claims 2, 4-6, and 19-20, these claims are dependent upon independent claim 1. If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious. In re Fine, 837 F.2d 1071 (Fed. Cir. 1988). Thus, since independent claim should be allowable as discussed above, claims 2, 4-6, and 19-20 should also be allowable at least by virtue of their dependency on independent claim 1. Moreover, these claims recite additional features which are not disclosed, or even suggested, by the cited references taken either alone or in combination. For example,

claim 4 recites "the surface roughness of the at least one surface is reduced to no more than 10 microinches root-mean-squared (RMS)" and claim 5 recites "the surface roughness of the at least one surface is reduced to no more than 5 microinches root-mean-squared (RMS)."

In view of the foregoing, it is respectfully requested that the aforementioned rejection of claims 1-2, 4-6, and 19-20 be withdrawn.

## II. CONCLUSION

In view of the foregoing, it is respectfully submitted that the present application is in condition for allowance, and an early indication of the same is courteously solicited. The Examiner is respectfully requested to contact the undersigned by telephone at the below listed telephone number, in order to expedite resolution of any issues and to expedite passage of the present application to issue, if any comments, questions, or suggestions arise in connection with the present application.

To the extent necessary, a petition for an extension of time under 37 CFR § 1.136 is hereby made.

Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to

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Respectfully submitted,

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